

Fort Worth, TX 76177



Aeronautical Study No. 2017-ANE-4636-OE

RECEIVED

Issued Date: 01/11/2018

Peter Crane Crown Castle 3 Corporate Park Drive Suite 101

Clifton Park, NY 12065

EXHIBIT 5

MAY 2 9 2019

PLANNING BOARD GRAFTON, MA

** DETERMINATION OF NO HAZARD TO AIR NAVIGATION **

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:

Antenna Tower 830306 / Jon Snow

Location:

Grafton, MA

Latitude:

42-13-43.72N NAD 83

Longitude:

71-41-37.27W

Heights:

- 421 feet site elevation (SE)

180 feet above ground level (AGL) 601 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

____ At least 10 days prior to start of construction (7460-2, Part 1)
__X_ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 07/11/2019 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (404) 305-6531, or darin.clipper@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-ANE-4636-OE.

(DNE)

Signature Control No: 350836344-352899695

Darin Clipper Specialist

Attachment(s)
Additional Information
Case Description
Frequency Data
Map(s)

cc: FCC

Additional information for ASN 2017-ANE-4636-OE

Overall AGL height must include all antennas and lighting rods or re-file with the FAA for evaluation at a greater height.

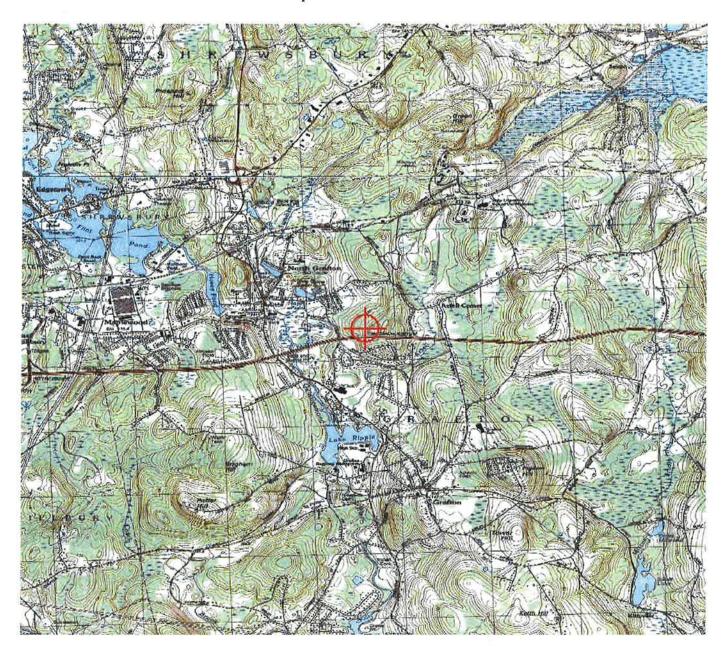
Case Description for ASN 2017-ANE-4636-OE

Proposed new tower, request omission from marking and lighting.

Frequency Data for ASN 2017-ANE-4636-OE

| LOW FREQUENCY | HIGH FREQUENCY | FREQUENCY UNIT | ERP | ERP UNIT |
|------------------|-------------------|-------------------|------|-------------|
| , | 7 | /4T 1 | | inu. |
| 6 | 7 | GHz | 55 | dBW |
| 6 | 7 | GHz | 42 | dBW |
| 10 | 11.7 | GHz | 55 | dBW |
| 10 | 11.7 | GHz | 42 | dBW |
| 17.7 | 19.7 | GHz | 55 | dBW |
| 17.7 | 19.7 | GHz | 42 | dBW |
| 21.2 | 23.6 | GHz | 55 | dBW |
| 21.2 | 23.6 | GHz | 42 | dBW |
| 614 | 698 | MHz | 1000 | W |
| 614 | 698 | MHz | 2000 | W |
| 698 | 806 | MHz | 1000 | W |
| 806 | 901 | MHz | 500 | W |
| 806 | 824 | MHz | 500 | W |
| 824 | 849 | MHz | 500 | W |
| 851 | 866 | MHz | 500 | W |
| 869 | 894 | MHz | 500 | W |
| 896 | 901 | MHz | 500 | W |
| 901 | 902 | MHz | 7 | W |
| 929 | 932 | MHz | 3500 | W |
| 930 | 931 | MHz | 3500 | W |
| 931 | 932 | MHz | 3500 | W |
| 932 | 932.5 | MHz | 17 | dBW |
| 935 | 940 | MHz | 1000 | W |
| 940 | 941 | MHz | 3500 | W |
| 1670 | 1675 | MHz | 500 | W |
| 1710 | 1755 | MHz | 500 | W |
| 1850 | 1910 | MHz | 1640 | W |
| 1850 | 1990 | MHz | 1640 | W |
| 1930 | 1990 | MHz | 1640 | W |
| 1990 | 2025 | MHz | 500 | W |
| 2110 | 2200 | MHz | 500 | W |
| 2305 | 2360 | MHz | 2000 | W |
| 2305 | 2310 | MHz | 2000 | W |
| 2345 | 2360 | MHz | 2000 | W |
| 2496 | 2690 | MHz | 500 | W |

TOPO Map for ASN 2017-ANE-4636-OE



Sectional Map for ASN 2017-ANE-4636-OE





« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2017_4,0

Add a New Case Off Airport for Wind Turbines - Met Towers - Desk Reference Guide V_2017_4,0

Project Name: CROWN-000444796-17

Sponsor: Crown Castle

Details for Case: 830306 / Jon Snow

Show Project Summary

| | | Show Project Sum | mary | | | | | |
|---|--|---|---|---|--|--|--------------|--|
| Case Status | | | | | | | | |
| ASN: | 2017-ANE-4636-OE | | Date Accepted: | 12/08/2017 | | | | |
| Status | Accepted | | Date Determined | ; | | | | |
| | | | Letters: | None | | | | |
| | | | Documents: | 12/08/2017 📆 8303 | 06 Jon Snow 1 | | | |
| Public Comments: None | | | | - | | | | |
| | | | | Project Documents: None | | | | |
| Construction / Al | teration Information | | Structure Sumn | nary | | | | |
| Notice Of: | rtice Of: Construction | | Structure Type: | Antenna Tower | | | | |
| Duration: | Per | manent | Structure Name: | 830306 / Jon Snow | | | | |
| | if Temporary : Mor | nths: Days | FDC NOTAM: | | | | | |
| Work Schedule - St | , , | | NOTAM Number: | | | | | |
| Work Schedule - End: | | | FCC Number: | | | | | |
| To find out, use the | nes-Does the permanent structure require : Notice Criteria Tool. If separate notice is r ase state the reason in the Description of P | equired, please ensure it is filed. | Prior ASN: | | | | | |
| Structure Details | | | Proposed Frequ | ency Bands | | | | |
| atitude: | | 42° 13' 43 72" N | Select any combine | alion of the applicable fre | quencies/powe | rs identified | d in the Col | |
| ongitude: | | 71° 41′ 37.27" W | Void Clause Coaliti | on, Antenna System Co | Location, Volur | tery Best F | Practices, | |
| | | NAD83 | of the frequency ba | effective 21 Nov 2007, to be evaluated by the FAA with your filing. If not within of the frequency bands listed below, manually input your proposed frequency | | | | |
| Site Elevation (SE): | | 421 (nearest foot) PASSED | | e Add Specific Frequenc | | | | |
| Structure Height (A | | 180 (nearest foot) | Add Specific Frequency Low Frequency | | | | ERP U | |
| Current Height (AG | • | (nearest foot) | 6 | High Freq 7 | Freq Unit GHz | ERP 55 | | |
| For notice of alter AGL height of the ex Include details in ti | ation or existing provide the current kisting structure. ee Description of Proposal | (100 021 (100) | 6 10 10 17.7 17.7 21.2 | 7 11.7 11.7 19.7 19.7 23.6 | GHz GHz GHz GHz GHz GHz | 42 55 42 55 42 55 | 0 0 0 0 | |
| the maximum heigh Structure Height (A operating height to require negotiation and minimum opera | study of a crane or construction equipment it should be listed above as the GL), Additionally, provide the minimum avoid delays if impacts are identified that to a reduced height. If the Structure Heigh thing height are the same enter the same | (nearest foot) | 21.2 614 614 698 806 806 824 851 | 23.6 698 698 806 901 824 849 | GHZ GHZ MHZ MHZ MHZ MHZ MHZ MHZ | 1000 2000 1000 500 500 500 500 | s s | |
| alue in both fields. | 5 | | 869 896 | 894 | MHz | 500 | | |
| tequested Marking, | /Lighting: | None | 901 | 901 902 | MHz MHz | 500 | | |
| | Other | : | 929 930 | 932 931 | MHz MHz | 3500 3500 | | |
| tecommended Mark | | | 931 932 | 932 932,5 | MHz MHz | 3500 17 | | |
| Current Marking/Lig | | N/A Proposed Structure | 935 940 | 940 941 | MHz MHz | 1000 3500 | * | |
| | Other | | 1670 1710 | 1675 1755 | MHz | 500 | | |
| learest City: | Street | Grafton | 1850 | 1910 | MHz MHz | 500 1640 | | |
| earest State: | | Massachusetts | 1850 1930 | 1990 1990 | MHz MHz | 1640 1640 | | |
| escription of Locat | tion, | 84 Snow Road | 1990 2110 | 2025 2200 | MHz MHz | 500 500 | | |
| | non; mary page upload any certified survey. | Grafton, MA Q1536 | 2305 2305 | 2360 2310 | MHz MHz | 2000 | | |
| escription of Propo | osal: | Proposed new tower, request omission from marking and | 2305 2345 2496 | 2360 2690 | MHZ MHZ MHZ | 2000 2000 500 | | |

Previous Back to Search Result Next →